

ROYAL COMMISSION ON TUBERCULOSIS (HUMAN AND BOVINE).

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INTERIM REPORT

OF THE

ROYAL COMMISSION

APPOINTED TO INQUIRE INTO THE RELATIONS OF

HUMAN AND ANIMAL TUBERCULOSIS.

Presented to both Houses of Parliament by Command of His Majesty.



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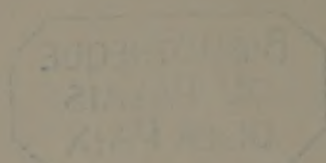
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NEW, ROYAL COMMISSION ON TUBERCULOSIS.

EDWARD R.

EDWARD THE SEVENTH, by the Grace of God of the United Kingdom of Great Britain and Ireland King, Defender of the Faith, To

Our Trusty and Well-beloved Sir MICHAEL FOSTER, Knight Commander of Our most Honourable Order of the Bath, Doctor of Medicine, Fellow of the Royal Society, Professor of Physiology in Our University of Cambridge ;

Our Trusty and Well-beloved GERMAN SIMS WOODHEAD, Esquire, Doctor of Medicine, Professor of Pathology in Our University of Cambridge ;

Our Trusty and Well-beloved SIDNEY HARRIS COX MARTIN, Esquire, Doctor of Medicine, Fellow of the Royal Society, Professor of Pathology at University College, London ;

Our Trusty and Well-beloved JOHN MCFADYEAN, Esquire, Principal and Professor of Comparative Pathology and Bacteriology at the Royal Veterinary College ; And

Our Trusty and Well-beloved RUBERT WILLIAM BOYCE, Esquire, Professor of Pathology at University College, Liverpool.

GREETING :

Whereas We have deemed it expedient that a Commission should forthwith issue to inquire and report with respect to Tuberculosis :—

1. Whether the disease in animals and man is one and the same ;
2. Whether animals and man can be reciprocally infected with it ;
3. Under what conditions, if at all, the transmission of the disease from animals to man takes place, and what are the circumstances favourable or unfavourable to such transmission.

Now know ye, that We, reposing great trust and confidence in your knowledge and ability, have authorised and appointed, and do by these presents authorise and appoint you, the said Sir Michael Foster, German Sims Woodhead, Sidney Harris Cox Martin, John McFadyean, and Rubert William Boyce, to be Our Commissioners for the purposes of the said inquiry.

And for the better effecting the purposes of this Our Commission We do by these Presents give and grant unto you, or any three or more of you, full power to call before you such persons as you shall judge likely to afford you any information upon the subject of this Our Commission ; and also to call for have access to and examine all such books, documents, registers and records, as may afford you the fullest information on the subject, and to inquire of and concerning the premises by all other lawful ways and means whatsoever.

And We do by these Presents authorise and empower you, or any three or more of you, to visit and personally inspect such places as you may deem it expedient so to inspect for the more effectual carrying out of the purposes aforesaid.

And We do further by these Presents will and ordain that this Our Commission shall continue in full force and virtue, and that you, Our said Commissioners, or any three or more of you, may from time to time proceed in the execution thereof, and of every matter and thing therein contained, although the same be not continued from time to time by adjournment.

And We do further ordain that you, or any three or more of you, have liberty to report your proceedings under this Our Commission from time to time if you shall judge it expedient so to do.

And Our further Will and Pleasure is that you do, with as little delay as possible, report to Us under your hands and seals, or under the hands and seals of any three or more of you, your opinion upon the matters herein submitted for your consideration.

Given at Our Court at Saint James's the Thirty-first day of August 1901; in the first Year of Our Reign.

By His Majesty's Command.

CHARLES RITCHIE.

TO THE KING'S MOST EXCELLENT MAJESTY.

May it please your Majesty,

We, your Majesty's Commissioners, appointed to inquire and report with respect to tuberculosis :—

1. Whether the disease in animals and man is one and the same ;
2. Whether animals and man can be reciprocally infected with it ;
3. Under what conditions, if at all, the transmission of the disease from animals to man takes place, and what are the circumstances favourable or unfavourable to such transmission ;

humbly submit this Report on the progress which we have made in the inquiry.

The greater part of the above reference is directed to the view which had been expressed that the bacillus which gives rise to tuberculosis in the bovine animal is specifically distinct from the bacillus which gives rise to tuberculosis in the human being, and that therefore the presence of the bovine bacillus in the milk or flesh of the cow, consumed as food by man, is not to be regarded as a cause of tuberculosis in the latter. To this point we first turned our attention.

After duly considering the matter, we came to the conclusion that it would be desirable not to begin the inquiry by taking evidence, that is to say, by collecting the opinions of others (though this might be desirable at a later stage), but to attack the problem laid before us by conducting experimental investigations of our own.

The first line of inquiry upon which we entered may be stated as follows :—

What are the effects produced by introducing into the body of the bovine animal (calf, heifer, cow), either through the alimentary canal as food, or directly into the tissues by subcutaneous or other injection, tuberculous material of human origin, *i.e.*, material containing living tubercle bacilli obtained from various cases of tuberculous disease in human beings, and how far do these effects resemble or differ from the effects produced by introducing into the bovine animal, under conditions as similar as possible, tuberculous material of bovine origin, *i.e.*, material containing living tubercle bacilli obtained from cases of tuberculous disease in the cow, calf, or ox ?

We have up to the present made use, in the above inquiry, of more than twenty different 'strains' of tuberculous material of human origin, that is to say, of material taken from more than twenty cases of tuberculous disease in human beings, including sputum from phthisical patients and the diseased parts of the lungs in pulmonary tuberculosis, mesenteric glands in primary abdominal tuberculosis, tuberculous bronchial and cervical glands, and tuberculous joints. We have compared the effects produced by these with the effects produced by several different strains of tuberculous material of bovine origin.

In the case of seven of the above strains of human origin, the introduction of the human tuberculous material into cattle gave rise at once to acute tuberculosis, with the development of widespread disease in various organs of the body, such as the lungs, spleen, liver, lymphatic glands, etc. In some instances the disease was of remarkable severity.

In the case of the remaining strains, the bovine animal into which the tuberculous material was first introduced was affected to a less extent. The tuberculous disease was either limited to the spot where the material was introduced (this occurred, however, in two instances only, and these at the very beginning of our inquiry), or spread to a variable extent from the seat of inoculation along the lymphatic glands, with, at most, the appearance of a very small amount of tubercle in such organs as the lungs and spleen. Yet tuberculous material taken from the bovine animal thus affected, and introduced successively into other bovine animals, or into guinea-pigs from which bovine animals were subsequently inoculated, has, up to the present, in the case of five of these remaining strains, ultimately given rise in the bovine animal to general tuberculosis of an intense character; and we are still carrying out observations in this direction.

We have very carefully compared the disease thus set up in the bovine animal by material of human origin with that set up in the bovine animal by material of bovine origin, and so far we have found the one, both in its broad general features and in its finer histological details, to be identical with the other. We have so far failed to discover any character by which we could distinguish the one from the other; and our records contain accounts of the post-mortem examinations of bovine animals infected with tuberculous material of human origin, which might be used as typical descriptions of ordinary bovine tuberculosis.

The results which we have thus obtained are so striking, that we have felt it our duty to make them known, without further delay, in the present Interim Report.

We defer to a further Report all narration of the details of our experiments (and we may say that up to the present time we have made use of more than two hundred bovine animals), as well as all discussions, including those dealing with the influence of dose and of individual as well as racial susceptibility, with questions of the specific virulence of the different strains of bacilli, with the relative activity of cultures of bacilli and of emulsions of tuberculous organs and tissues, and with other points. In that Report we shall deal fully with all these matters, as well as with the question why our results differ from those of some other observers.

Meanwhile we have thought it our duty to make this short Interim Report, for the reason that the result at which we have arrived, namely, that tubercle of human origin can give rise in the bovine animal to tuberculosis identical with ordinary bovine tuberculosis, seems to us to show quite clearly that it would be most unwise to frame or modify legislative measures in accordance with the view that human and bovine tubercle bacilli are specifically different from each other, and that the disease caused by the one is a wholly different thing from the disease caused by the other.

In conclusion we desire to express in the strongest terms our appreciation of the most generous assistance given to the Commission by Sir James Blyth, who has placed unreservedly at our disposal his farm buildings and other accommodation at Stansted. By his action not only has the Nation been saved a very large necessary expenditure, but we have been able, by the help of the admirable arrangements made for us, to carry out our

investigations in a manner which would have been impossible had the accommodation and equipment for our enquiry been provided entirely at the public cost.

And we wish also to thank our Secretary, Dr. E. J. Steegmann, and our observers, Drs. Louis Cobbett, A. Stanley Griffith, Eastwood, and Hutchens, as well as the rest of our Staff, for the able services which they have untiringly rendered to us.

(Signed) M. FOSTER, *Chairman.*
 G. SIMS WOODHEAD.
 SIDNEY MARTIN.
 J. McFADYEAN.
 RUBERT BOYCE.

EDWARD J. STEEGMANN, *Secretary.*

16th May 1904.



